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ABSTRACT

This article reports a study in which fourth graders were tested on their recall of stories they had read. Thirty-two children, divided into two groups of 16 by reading ability, each read two passages and were scored for recall. The passages read were either the original versions of two stories, semantic rewrites (in which anaphoric elements, e.g., "he" were removed), syntactic rewrites (in which explicit relational elements, e.g., "because" were removed) or combined semantic and syntactic rewrites. Four kinds of recall were distinguished: (1) text reproduced recall (repetition of text propositions), (2) text entailed recall (related information, summary statements and direct inferences), (3) text evoked recall (thematically related but tangential responses) and (4) external recall (responses related only to the situation and act of retelling). The results indicated that: (1) more able readers are more likely than poorer readers to remember what the text stated as pieces of information; (2) the rewrites did not have a significant effect on text reproduced recall; (3) semantic rewrites improved entailed recall; (4) the nodal slots (characters, conflicts and resolutions) were the best recalled parts of the stories in both ability groups. Related literature is discussed. (Appendices provide the stories and rewrites, and tables and figures report the results.) (Author/EH)

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Structural and Thematic Variations
on Fourth Graders' Types of Recall

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Written narratives have both content and linguistic structures for presenting the content. Each can be varied independently and the effects upon recall noted.

Content Variables

The nodal slots of story structures are meta-categories for representing certain content information. When and where the story took place, who are the major characters, what is the conflict, and how is it resolved are general characteristics of narratives (Rumelhart, 1977). Information for these nodal slots is almost always present

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though it may vary in specificity. Time of day may be stated or inferred. The default condition for historical time is the present and is often omitted. Emotional motivations and reactions toward the conflicts and the resolutions can be stated or implied. In the latter case, the reader must infer how he would feel if confronted with a similar situation. Children are generally somewhat less aware of some of the nodal slots than adults (Mandler, 1977; Thorndyke, 1977), particularly setting and emotional variables.

The degree of specificity of the information is another content variable. Once upon a time versus in the early fall of the year 1066 on a bright autumn day differ in amount of information and type of information. The former is a children's story context collocation (Bolinger, 1977), a stereotypical opening for children's tales, and would be treated as a single, essive proposition (Drum & Lantaff, 1977). The latter had three distinct propositions, each with at least one attributive modifier, or a total of seven information bits. Information bits are content, lexical items: in this instance, early, fall, year, 1066, bright, autumn, day. The three, time-relational propositions are in the early fall, of the year 1066, on a bright autumn day. Any nodal slot can be filled with a single proposition or a cluster of n-propositions. An increase in number of arguments within propositions makes the propositions less reproducible (Kintsch, 1974), but an increase in number of propositions containing information on a node, i.e. time, may make that node more likely to be filled with at least one bit of information. Redundant pieces of information are more often recalled (Drum, 1978); of course, this refers to repetitions of arguments not nodes. But the

amount of information for a node may indicate the importance of that slot in the content of the story.

Simple narratives are here defined as those containing only one node for each category, one location, one protagonist, one conflict, etc., though the amount of information given to each node may vary. More complex narratives are those that have two or more conflicts, changes in time or location, more than one main character. If the two events are presented as concatenated units, then both are likely to be remembered. If one event is embedded within the other, then the encompassing event is more likely to be remembered (Stein, 1977). When number of words is kept constant and stories are varied by one versus two concatenated events, the amount of information supplied for each event in the two-event passage must be less. There will be less repetition of same-arguments, defined as lexical items with exactly the same referent. The proportion of new to given information will therefore increase, a condition which can depress recall (Haviland & Clark, 1974).

On the other hand, list-learning paradigms show that a change in category for word lists improves recall; each category acts as a clustering device for words. Assuming that separate events act as novel categories, a two-event passage should produce more recall than a one-event passage.

In summary, the following predictions are made: 1) The more information provided for a nodal slot, the more likely a piece of information will be recalled by all readers. 2) Implicit information will only be recalled by more able readers, who have the prerequisite

fluency to reconstruct the passage. And 3) Two-event stories will produce quantitatively more text recall than one-event stories even though number of words is kept constant.

Content Variation in Stories

Two stories, Wolves and Luck, were selected from a fourth grade reader. The original passages and their rewritten structural versions are in Appendix A. Both original versions have exactly 148 words. The filled nodal slots of story structure, explicit information and amount of information, are described in figure 1.

Story:	<u>Wolves</u>		<u>Luck</u>	
	<u>Explicit/Implicit</u>	<u># of Information Bits</u>	<u>Yes/No</u>	<u># of Information Bits</u>
<u>Setting</u>				
Time	Implicit	1	Explicit	3
Place	Implicit	4	Explicit	3
<u>Main Characters</u>				
One	Explicit	19	Explicit	13
More than one	None			
<u>Events</u>				
Event (1)	Explicit	44	Explicit	20
Motivation for (1)	Implicit	0	Implicit	0
Resolution for (1)	Implicit	12	Implicit	3
Event (2)	None		Explicit	20
Motivation for (2)	None		Implicit	0
Resolution for (2)	None		Both	16

Wolves is a third person, chronological order narrative located in snow country somewhere. The time is probably the present. There is one main character, Caje. The wolves as the antagonists could be considered characters, but there are no anthropomorphic cues in this story. Therefore, Caje is the only human. A reader can assume he is scared, but no internal feeling statements are included. Again, the reader can assume Caje builds a fire which keeps the wolves away. But the reader must make a low-level inference that this is done, for the information given is that that is what Caje should do.

Luck is a third person, chronological order narration. There is one main character, the unlucky fisherman, who lives in a village in the old days in France. The first event is a description of why the fisherman is unlucky, with an implied resolution that he does not complain. The second event describes his change of luck, the explicit resolution. A reward for catching a big fish is offered. The fish accidentally kills itself in the main character's boat. The implied resolution is that the unlucky fisherman gets the purse of gold.

Luck should have quantitatively more recall than Wolves because of its two-event structure. Few readers will recall any implied information, and those who do will be the more able readers. Some information about the main characters and the events will be recalled by all readers because these nodal slots are filled with redundant information.

Structural Variables

Independent of the content, at least to some degree, it is possible to rewrite passages while keeping the content lexical items constant. The effects of syntactic simplification of sentences or explicit substitu-

tion of lexical referents for anaphoric or implied elements upon fourth grade reader recall is examined here.

Syntactic simplification was selected because of a growing body of literature suggesting that children may not have control over complex subordination until adolescence (Inghram, 1975, Chomsky, 1969). However, it was hypothesized apriori that syntactic simplification would have instead an adverse effect, for the explicit relational words, such as when, because, although, etc., would have to be supplied by the reader in order to provide a superordinate/subordinate structure to the passage, a task which can make reading more difficult (Pearson, 1974). The control over passages was to compare recall responses from original passages versus those rewritten into simple, active sentences, thereby using the same event structure and lexicon. The syntactically simplified passages had more sentences. Each clause became a sentence when subordinating conjunctions were deleted.

Replacement of anaphoric or implied elements with explicit references, the only changes made from the original, resulted from the Carpenter & Just (1977) finding that seeking referents for anaphoric elements takes additional time and is an inferential activity (Clark, 1977) requiring additional processing. An implied or anaphoric element requires the reader to search either memory or text or both in order to supply the intended referent. Search times prolong the reading act and may interfere with the reconstruction of the information. Also, an erroneous referent can be supplied resulting in an inappropriate semantic base. The prediction was that the semantic rewrites would be best recalled, then the original versions, with the syntactic rewrites recalled least well.

A final version of each passage was a combined syntactic/semantic rewrite. The combined version was used to examine possible syntactic or semantic effects. Would the combined rewrite result in better retention, generally or would it be similar to one of the other versions?

A summary of the structural variations is included in Table 2, and the versions are included in Appendix A. The syntactic rewrites decrease number of words, number of propositions, and increase number of sentences. The semantic rewrites increase number of words, number of propositions, and, except for one addition, preserve number of sentences. The combined versions are not additive combinations. Decisions had to be made as to which rewrite should take precedence. Therefore, the results are somewhat difficult to interpret.

Subject Factors

Most reading comprehension studies, other than those of Perfetti and Lesgold (1977), examine some aspect of language and assume random selection of readers from a single age and grade population of readers. The effects of stratified sampling from two or more populations are generally not considered. Surely if passages are complex, readers also represent differences, maybe even systematic differences. An interesting exception to the single population approach is found in the Marshall and Glock Study (1978). These researchers found that Cornell students had more complete recalls generally, but they were not affected by the experimental variables, such as explicit versus implicit if-then clauses. The community college students, however, performed less well on the implicit versions. From these and other differences in recall, Marshall and Glock assumed they were sampling from two separate reading populations

even though grade in school was equivalent.

In this study, the 32 fourth grade students were blocked into two groups of 16 readers each by their performances on story-telling tasks (vocabulary used and diversity of syntactic constructions), word recognition in isolation skills (both appropriate naming and reasonable definitions), and the Gray Oral Informal Reading Inventory. The comprehension results from the latter measure, those a year or more above grade level versus a year or more below grade level, were used as descriptors in defining the samples as belonging to two different reading populations in the recall analyses described here.

Procedures

Each child read and immediately recalled the two passages. The passages were either an original version, a semantic rewrite, a syntactic rewrite, or a combined rewrite. Eight children read one of the versions of each story. The design is a 2 (ability level) * 2 (story) * 4 (structure) mixed design, with ability, structure, and structure by story between factors, and story, a within, repeated measures factor.

Recall protocols were scored as text reproductions, text entailments, text evoked, and text external comments. In these analyses, only text reproductions, text entailments, and text evoked responses will be reported.

Scoring Recall

Each subject's recall was divided into propositional units, where appropriate, for some would add single words with no relationship expressed. For this reason, we originally used word counts. The words were divided into the following categories:

1. Text Recall - Responses that repeated propositions in the text. An hierarchical propositional analysis of the text (Kintsch, 1974) was used as a template in scoring. Propositions are based on the content words with function words indicating relationships. Therefore, text recall propositions either used the same content words or synonyms substantiated by Webster's Third Dictionary.
2. Text Entailed Recall - Responses that added case related information (Fillmore, 1968), that summarized two or more text statements, or that made explicit inferences derived from the text. For a macrostructure description of this category see van Dijk (1977).
3. Text Evoked Recall - Responses that were tangential to the text content--thematically related to the topic but without any other connection, or generalization with no specific text relationships.
4. External Recall - Responses related to the situation and the act of re-telling rather than to the information within the text.

Thus the four categories were defined by proximity to text information.

The first analyses over the full design (only 1/4 of which is presented here) used the word totals. The results reported here used original subject propositions divided into text reproductions, text entailments, and text evoked.

Results

Types of Recall

Text Reproductions - More able readers are more likely to remember what the text stated as pieces of information than less able readers. This is true for both narratives and for all four versions of each passage, including the two, non-fiction, science passages of the full design (Table 2).

Of the two narratives, Luck and Wolves, the two theme (two event), Luck, passage has more text recall than Wolves, even though number of words was originally the same. There was no passage by rewritten version interaction, so the fact that the semantic and combined versions of Luck were substantially longer than those of Wolves did not differentially affect recall (Tables 3 & 4). As a matter of fact, re-writing did not have a significant effect on text reproduced recall, though it did on text entailments.

Text Entailments - Neither reading ability nor passage affected the number of text entailed responses. However, semantic rewrites improved entailed recall and the combined rewrites showed a trend in this direction (Tables 3 & 4).

Children in primary schools do not reconstruct as much as older children (Drum, 1975, 1978; Evans, 1977). However when they do not have to supply the antecedent referent for anaphoric items, there appears to be an increase in entailed responses. Even though significant at .02, the effect is quite small and needs independent replication for any kind of substantiation.

Text Evoked Responses - Less able readers did make more of such

responses but not significantly so (Tables 3 & 4). About 1/3 of those responses were faulty reference, they for he, etc. There is no pattern for faulty reference by rewritten version, by passage, or by ability. It may be an artifact of the recall situation and/or incomplete control over reference in nine year olds. There is no main effect for text evoked responses anywhere. Such responses decrease with delayed recall but never are they numerous. The majority of readers, able and less able, know what was in the text versus what was not; Bartlett's weird Ghost story and Kintsch's over-familiar Joseph and the Coat story are two exceptions, but even here it takes peculiar situations for intrusions to become important.

The only interaction anywhere is for evoked recall, where able readers have less of such responses, but particularly under the original passages condition ($\bar{X}$ of 2.2 versus $\bar{X}$ of 4.4 for combined). Less able readers have the highest mean evoked recall for original, 5.1, though not much less for combined, 4.8. The whole effect is quite minimal, ($F = 4.5$, with 1,24 d.f., $p > .05$). The effect is mainly due to able readers' drop in evoked responses under the original versions. Since the effect is just significant, it would likely disappear in a replication.

Story Structure

Any node that was explicitly filled in the typed versions of the passages with at least two or more pieces of information was likely to be recalled (Table 5). Time and motivation are only implied in both. It is likely that Caje is nervous or scared of the wolves, but it is never stated. The poor fisherman is cheerful in his original misery,

which no one mentions, probably because it is counter to most experience. Only one reader mentioned that "he never complained," the resolution to event one. In other words, these fourth graders remember what was said. There was no difference by reading ability on the categories retained, nor was there any interaction between reading ability and passage for story structure.

No particular version had much of an influence on the nodal slots of Luck, some depression for the original versions but not on particular nodes. Readers remembered the protagonist and the episodic events and the resolution to the second event; the only explicit information not recalled by the majority were time and location.

Two readers did not remember Wolves at all-- one a syntactic and one a semantic version. The boy's name was mentioned by 75% of the readers, who read the semantic and combined versions, where his name was often repeated. Only 25% remembered the boy's name under the syntactic and combined versions. This may explain the confusion with the protagonist in the original and syntactic versions. A few readers changed to man or he, but some said they or the wolves or bear built a fire, obviously a referential confusion.

Discussion

Even though semantic re-writes helped these fourth graders to make more appropriate inferences, the recommendation is not made to re-write material in this fashion. Readability formulas have already had a sufficient sterilizing effect on primary reading material without encouraging other "simplifications." Instead, anaphoric elements and their antecedent elements should be taught.

The recall of the nodal slots of story structure does not distinguish between able and less able fourth grade readers. Only explicitly filled slots were retained. A more useful variation for future studies may be comparing slots filled with many information bits versus those filled with few.

The fact that events rather than description is more memorable for fourth graders is not surprising and replicates the Thorndyke (1977), Mandler (1977), and Stein (1978) studies. This could be looked at developmentally to see if with age and experience, there will be a change. However, studies with college students indicate more inference (more reconstruction), similar percents of text reproduction, and fewer intrusions (text evoked responses). They (college students) are also most likely to recall events, explicit information over implicit, and comparatively little on motivation (Drum, 1978). Story structure slots may be telling us more about requirements for preceivable events in life than about reading and/or stories.

Finally, because of the lack of interactions and the independence of main effects upon different dependent measures, sentence structure, including both types of sentence, manner of reference, anaphoric devices, and coordinating and subordinating conjunctions, is an independent distinguishable part of narrative structure from the amount and type of information presented in narratives.

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Appendix A

WOLVES

Original Version

Caje began to pull the sled over the snow as fast as he could but his legs were giving out. He kept glancing back at the big varmints. They were coming closer, silently, steadily. In ordinary times wolves weren't too brave. They weren't likely to give trouble. But these wolves were starving. The smell of fresh-killed bear had them half-mad already. They might keep their distance now but a little more and they might leap at his throat and pull him to the snow.

Ahead of him a canebreak grew along the creek. He saw a sheltered place where the cane grew close and the great thick stalks made a sort of wall. He swerved in that direction, jerking the sled with all his might. He would have to make a fire, that was one sure way to keep the wolves at bay now that darkness was on him.

Semantic Version

Caje started to pull the sled over the snow as fast as possible, but Caje's legs were getting tired. Caje kept looking back at the big wolves. The wolves were coming closer, silently, steadily. Most of the time wolves aren't very brave. Wolves aren't likely to attack. But these wolves were starving. The smell of freshly-killed bear had made the wolves crazy with hunger right now. The wolves might stay back for a few minutes, but in a little more time the wolves might jump at Caje's throat and pull Caje to the snow.

Ahead of Caje a canebreak grew along a creek. Caje saw a sheltered place where the cane grew close together and the great thick stalks of cane made a wall, a shelter. Caje turned toward the cane, pulling the sled as quickly as possible. Caje would have to make a fire, for a fire would surely keep the wolves away, now that the darkness of night had come.

Syntactic Version

Caje began to pull the sled over the snow fast. His legs were giving out. He kept glancing back at the big varmints. They were coming closer, silently, steadily. Wolves weren't too brave in ordinary times. They didn't give trouble. But these wolves were starving. The smell of freshly-killed bear had them half-mad already. They might keep their distance now. But they might leap at his throat in a little more. They might pull him to the snow.

A canebreak grew along the creek ahead of him. He saw a sheltered place. The cane grew close. The great thick stalks made a wall. He swerved in that direction. He jerked the sled with all his might. He would have to make a fire. That would keep the wolves at bay in the dark.

WOLVES (continued)

Combined Version

Caje started to pull the sled over the snow fast, but his legs were getting tired. Caje kept looking back at the big wolves. The wolves were coming close, silently, steadily. Wolves weren't brave most of the time, and didn't make trouble. But these wolves were starving. The wolves smelled the freshly-killed bear. The smell was making the wolves crazy with hunger. The wolves might stay back for a few minutes. But soon they might jump at Caje's throat and pull him down to the snow.

A canebreak grew along the creek ahead of Caje. Caje saw a sheltered place, a place where the cane grew close together. The great thick stalks of cane made a wall. Caje turned toward the cane. He pulled the sled quickly. Night had come. Caje would have to make a fire. A fire would keep the wolves away in the dark.

LUCK

Original Version

In the old days in France, and very good days they were, there was a hard-working, cheerful fisherman, but never did a good fellow have worse luck. If a storm blew up, it was his nets which were carried away. If he caught no fish, the market for fish would be good. If he caught many, there would be no market at all. Yet he never complained.

One day his luck changed. There had been much talk among the fishermen in the village of a certain big fish which had been seen often. The rich man of that place offered a purse of gold to the one who would catch it. So, of course, every fisherman tried, but what would happen but that that particular fish leaped into the poor fisherman's boat when the man was looking another way, and, striking its head on the mast, fell dead!

Semantic Version

Many years before today in a country called France, there was a hard-working, cheerful fisherman; for most people these years were very good years, but the good fisherman had terrible luck. If a storm came, the fisherman's nets would be carried away by the storm. If the fisherman caught no fish, everyone wanted to buy fish. If the fisherman caught many fish, nobody wanted to buy fish. Yet the fisherman never complained.

One day the fisherman's luck changed from bad luck to good luck. There had been a lot of talk among the village fishermen about a certain big fish that the villagers had seen many times. The rich man of the village offered a purse filled with gold to the fisherman who would catch the fish. So, of course, every fisherman tried to catch the fish, but what happened was that the big fish jumped into the unlucky fisherman's boat when the fisherman was looking somewhere else, and the big fish hit its head on the mast of the boat, and the fish fell dead! The unlucky fisherman got the purse of gold and became the lucky fisherman.

LUCK (continued)

Syntactic Version

There was a hard-working, cheerful fisherman in the old days in France. He had very bad luck. Sometimes there were storms. His nets would be carried away. Sometimes he didn't catch any fish. Then the market for fish would be good. Sometimes he caught a lot of fish. Then there wouldn't be any market at all. Yet he never complained.

His luck changed one day. The fishermen in the village had been talking about a big fish. They had seen this big fish often. A rich man in that place offered a purse of gold to one of them. This one would have to catch the fish. So, every fisherman tried of course. What happened? That particular fish leaped into the poor fisherman's boat. The man was looking another way. It struck its head on the mast. It fell dead!

Combined Version

Many years ago, there was a hard-working, cheerful fisherman. The fisherman lived in a country called France. These years were very good for most people. However, the good fisherman had terrible luck. Sometimes there were storms. Then the good fisherman's nets would be carried away. Sometimes the fisherman didn't catch any fish. Then everybody wanted to buy fish. Sometimes the fisherman would catch lots of fish. Then nobody wanted to buy fish. Yet the fisherman never complained.

The fisherman's luck changed one day from bad luck to good luck. The fishermen in the village had been talking about a big fish. The fishermen had seen this fish many times. A rich man of the village offered a purse filled with gold to one of the fishermen. If any fisherman caught the fish he would get the purse of gold. So, every fisherman tried to catch the fish of course. This is what happened. The big fish jumped into the unlucky fisherman's boat. The fisherman was looking somewhere else. The big fish hit its head on the mast of the boat and fell dead. The fisherman got the purse of gold. The unlucky fisherman became the lucky fisherman.

Table 1 - Passage Structures

	<u># of Words</u>	<u># of Sentences</u>	<u># of Propositions</u>	<u>Average # of words per Proposition</u>
Wolves:				
original	148	12	42	3.18
syntactic	135	19	40	3.33
semantic	163	12	45	3.49
Luck:				
original	148	9	41	3.37
syntactic	130	20	38	3.32
semantic	187	10	47	3.68

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Table 2 - ANOVA - Ability by Recall Categories

Categories	<u>d.f.</u>	<u>MS</u>	<u>F</u>	<u>p.</u>	<u>$\bar{X}$</u>
(First Recall)					
text high/low	1,30	7095	10.9	.002	34/19
entailed high/low	1,30	1128	14.7	.001	11/5
evoked high/low	1,30	328	1.0	.32	13/16
(Second Recall)					
text high/low	1,30	9350	15.0	.001	41/24
entailed high/low	1,30	309	3.1	.089	12/8
evoked high/low	1,30	17	< 1	.802	12/13

Table 3

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ANOVA - Main Effects for Types of Recall by Ability, Thematicity,
and Structure for Narration*

Type of Recall	Source	d.f.	MS	F	p.	$\bar{X}$
Text	Ability	1	185.	18.7	.000	
	High/low					8.9/4.1
	Thematicity	1	248.	24.9	.000	
	One/two					3.7/9.3
	Structure	1	30.	3.0	.095	
	Semantic/syntactic					7.4/5.5
	Error	24	10			
Entailed	Ability	1	0	1	1.000	
	High/low					1.1/1.1
	Thematicity	1	1.	1	.408	
	One/two					.9/1.3
	Structure	1	10.	6.4	.018	
	Semantic/syntactic					1.7/.6
	Error	24	1.6			
Evoked	Ability	1	3.	1	.370	
	High/low					1.7/2.2
	Thematicity	1	8	2.1	.157	
	One/two					1.5/2.5
	Structure	1	8	2.1	.157	
	Semantic/syntactic					1.5/2.5
	Error	24	3.7			

*No interaction reached significance. All probabilities greater than .25.

Table 4

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ANOVA - Main Effects for Types of First Recall by Ability, Thematicity,
and Structure for Narration.

Type of Recall	Source	d.f.	MS	F	p.	$\bar{X}$
Text	Ability	1	69.	5.4	.029	
	High/low					8.0/5.1
	Thematicity	1	102.	8.0	.009	
	One/two					4.8/8.3
	Structure	1	48.	3.7	.006	
	Original/combined					5.3/7.8
	Error	24	12.8			
Entailed	Ability	1	.03	.04	.847	
	High/low					.8/.8
	Thematicity	1	.78	.95	.340	
	One/two					.6/.9
	Structure	1	2.53	3.08	.092	
	Original/combined					.5/1.1
	Error	12	.82			
Evoked	Ability	1	7.03	1.40	.249	
	High/low					2.0/2.9
	Thematicity	1	.03	.01	.938	
	One/two					2.5/2.4
	Structure	1	3.78	.75	.395	
	Original/combined					2.8/2.1
	Error	24	5.03			

Table 5
% of Readers Recalling at Least One Proposition
For Each Story Structure Node by Versions and by Total

Story	Original (n=8)	Syntactic (n=8)	Semantic (n=8)	Combined (n=8)	Total (n=32)
<u>Wolves</u>					
Location	25	13	13	0	19
Time	0	0	0	0	0
Protagonist	63	88	63	88	78
Episode	75	88	38	88	69
*(Motivation)	0	0	0	0	0
Resolution	50	63	25	63	50
<u>Luck</u>					
Location	0	38	38	25	25
Time	0	0	0	13	03
Protagonist	100	100	100	100	100
Episode (1)	63	75	75	75	75
*(Motivation) (1)	0	0	0	0	0
Resolution (1)	0	13	0	0	03
Episode (2)	88	88	100	100	94
*(Motivation) (2)	0	0	0	0	0
Resolution (2)	63	75	88	100	75

Δ ————— High, Luck	Ability (1,24)	F 5.41	p. .039
$\circ$ - - - - - High, Wolves	Passage (1,24)	7.96	.009
$\blacktriangle$ ————— Low, Luck	Writing (1,24)	3.72	.006
$\bullet$ - - - - - Low, Wolves	No interaction above		.228







